

CLAIMS:

1. A maneuverable device for transporting a load over a surface, comprising:
 - a platform for supporting a load to be transported;
 - 5 a base comprising a plurality of castors;
 - at least one auxiliary wheel mounted for rotation about at least one fixed axis with respect to said base;
 - a power unit configured for providing motive power to said at least one auxiliary wheel;
- 10 a driving unit for steering said device, wherein the driving unit operates independently of said at least one auxiliary wheel.
2. Device according to claim 1, comprising a deployment/retraction mechanism for selectively deploying and retracting said at least one auxiliary wheel with respect to said surface, wherein when deployed said at least one auxiliary wheel is in traction contact with said surface, and wherein when retracted said at least one auxiliary wheel is distanced away from said surface.
- 15 3. Device according to claim 2, wherein said deployment/retraction mechanism comprises a suitable pneumatic or hydraulic jack arrangement.
4. Device according to claim 2, wherein said deployment/retraction mechanism is controllable by means of a pedal which is actuatable by a user.
- 20 5. Device according to claim 1, wherein said platform is mounted to said base by means of a pair of longitudinally spaced support columns.
6. Device according to claim 5, wherein each one of said columns is independently adjustable in length to enable the height and inclination of said platform to be adjusted with respect to said base.
- 25 7. Device according to claim 6, wherein said columns are controllable by means of a system of foot pedals which are actuatable by a user.

8. Device according to claim 2, wherein said power unit comprises an electric motor coupled to said at least one auxiliary wheel, and further comprises a suitable electrical power source operatively connected to said motor.

5 9. Device according to claim 1, wherein said driving unit is retractably mounted to said platform.

10. Device according to claim 8, wherein said driving unit comprises a pair of longitudinally opposed and coaxial handlebars.

11. Device according to claim 10, wherein at least one said handlebar comprises a control mechanism for controlling the speed of said at least one auxiliary wheel.

12. Device according to claim 11, wherein said at least one controlling handlebar is configured to maintain operative connection between said power source and said motor only when said controlling handlebar is being grasped by a user in a predetermined manner.

13. Device according to claim 12, wherein said controlling handlebar comprises a twist-grip control mechanism, which is configured to disconnect operative connection between said power source and said motor when said twist-grip mechanism is in a datum position, and biased to return said twist-grip mechanism to said datum position when said controlling handlebar is ungripped by a user.

14. Device according to claim 12, wherein said controlling handlebar comprises a control mechanism in the form of a switch, which is configured to disconnect operative connection between said power source and said motor when said switch is in a datum position, said switch being biased to return to said datum position when said switch is released by a user.

15. Device according to claim 11, wherein said driving unit comprises display panel having one or more suitable indicators.

16. Device according to claim 15, wherein said indicators comprise at least one of: a grip indicator for indicating when appropriate that an operator

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is holding one or both said handlebars; a low battery indicator; an overload indicator for indicating that the carrying load of the device is overloading the motor; a forward/reverse switch to enable the direction of motion of the device to be reversed.

5 17. Device according to claim 1, wherein said castors are configured to selectively operate in any one of at least two modes, including a neutral mode and a brake mode.

10 18. Device according to claim 17, wherein said plurality of castors are linked one to the other such that said plurality of castors are simultaneously actuated to operate in one or the other of said at least two modes.

19. Device according to claim 18, wherein said plurality of castors is controllable by means of a pedal system which is actuatable by a user.

15 20. Device according to claim 17, wherein said castors are configured to selectively operate in any one of three modes, including a neutral mode, a steering mode and a brake mode.

21. Device according to claim 20, wherein said plurality of castors are linked one to the other such that said plurality of castors are simultaneously actuated to operate in one or the other of said three modes.

22. Device according to claim 21, wherein said plurality of castors is controllable by means of a pedal system which is actuatable by a user.

23. Device according to claim 20, further comprising a steering system for collectively steering said plurality of castors in the steering mode responsive to a controlling input from said driving unit.

25 24. Device according to claim 23, wherein said steering system comprises a linkage system between said castors configured to provide each castor with an axis of rotation that crosses a common turning center for said device, wherein said axis of said auxiliary wheel also crosses said center, and wherein the position of said center relative to said device is controlled by means of said driving unit.

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25. Device according to claim 24, further comprising a support for supporting a user during operation of said platform.

26. Device according to claim 25, wherein said support is rigidly connected to said platform.

5 **27.** Device according to claim 1, further comprising a wheeled support for supporting a user during operation of said platform.

28. Device according to claim 27, wherein said support is pivotably connected to said platform.

10 **29.** Device according to any one of claims 1 to 28, wherein said device is in the form of a bed for transporting a patient along a ground surface.

30. Device according to claim 29, wherein said platform comprises at least one tilting portion that is pivotably mounted with respect to a remainder of said platform.

15 **31.** Device according to any one of claims 1 to 28, wherein said device is in the form of a chair for transporting a person along a ground surface.

32. A maneuverable device for transporting a load over a surface, comprising:

· a platform for supporting a load to be transported;

a base comprising a plurality of castors;

20 at least one auxiliary wheel mounted for rotation about at least one fixed axis with respect to said base;

a driving unit for steering said apparatus, wherein the driving unit operates independently of said at least one auxiliary wheel

25 a steering mechanism for collectively steering said plurality of castors in responsive to a controlling input from said driving unit.

33. Device according to claim 32, wherein said castors are configured to selectively operate in any one three modes, including a neutral mode, a steering mode and a brake mode.

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34. Device according to claim 33, wherein said plurality of castors are linked one to the other such that said plurality of castors are simultaneously actuated to operate in one or the other of said three two modes.

5 **35.** Device according to claim 34, wherein said plurality of castors is controllable by means of a pedal system which is actuatable by a user.

36. Device according to claim 32, further comprising a steering system for collectively steering said plurality of castors in the steering mode responsive to a controlling input from said driving unit.

10 **37.** Device according to claim 36, wherein said steering system comprises a linkage system between said castors configured to provide each castor with a axis of rotation that crosses a common turning center for said device, wherein said axis of said auxiliary wheel also crosses said center, and wherein the position of said center relative to said device is controlled by means of said driving unit.

15 **38.** Device according to claim 37, further comprising a support for supporting a user during operation of said platform.

39. Device according to claim 38, wherein said support is rigidly connected to said platform.

20 **40.** Device according to any one of claims 32 to 39, wherein said device is in the form of a bed for transporting a patient along a ground surface.

41. Device according to claim 40, wherein said platform comprises at least one tilting portion that is pivotably mounted with respect to a remainder of said platform.

25 **42.** Device according to any one of claims 32 to 39, wherein said device is in the form of a chair for transporting a person along a ground surface.